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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/592,924	09/14/2006	Shoubhik Mukhopadhyay	032170116PCT	5776
24978 7590 11/19/2009 GREER, BURNS & CRAIN 300 S WACKER DR 25TH FLOOR CHICAGO, IL 60606				
EXAMINER				
RIZK, SAMIR WADIE				
ART UNIT		PAPER NUMBER		
2112				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/592,924

**Applicant(s)**

MUKHOPADHYAY ET AL.

**Examiner**

SAM RIZK

**Art Unit**

2112

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 September 2006.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-25 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/SF/88)  
Paper No(s)/Mail Date 9/14/2006, 5/21/2007, 2/19/2009.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTIONS**

- Claims 1-25 have been submitted for examination
- Claims 1-25 have been rejected

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 1, 2, 5, 6 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Crosswhite US patent no. 6611726 (Hereinafter Crosswhite).
2. In regard to claim 1, Crosswhite teaches:
  - (Original) A method of filtering transient errors in data collected comprising:
  - predicting the transient errors using correlation of the data; and  
(Figure 1B, step (20) and figure 1C, step (23) in Crosswhite)
  - correcting the transient errors based at least in part on the correlation.  
(Figure 1C, steps (26) & (28) in Crosswhite)
3. In regard to claim 2, Crosswhite teaches:
  - (Original) The method of claim 1, wherein said correcting includes delaying the data.

(Figure 1B, steps (18) in Crosswhite)

4. In regard to claim 5, Crosswhite teaches:
- (Original) The method of claim 2, wherein said delaying the data comprises forming a prediction history tree.

(Figure 1B, steps (18) in Crosswhite)

5. In regard to claim 6, Crosswhite teaches:
- (Original) The method of claim 1, wherein said correlation includes autoregressive moving average correlation.

(col. 3, lines (50-55) in Crosswhite)

6. Claim 10 is rejected for the same reasons as per claim 6.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 3, 4, 7-9 and 11-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over as applied to claim 2 above, and further in view of King US patent no. 6346911 (Hereinafter King)..
8. In regard to claim 3, Crosswhite teaches substantially all the limitations in claim 2.

However, Crosswhite does not teach:

- (Original) The method of claim 2, wherein said delaying the data comprises tuning the amount of delay to a particular wireless sensor network.

King in an analogous art that teach method and apparatus for determining time in a GPS receiver teaches:

- (Original) The method of claim 2, wherein said delaying the data comprises tuning the amount of delay to a particular wireless sensor network.

(Figure 6, ref. (607) and col. 11, lines (4-19) and col. 10, lines (19-30) in King)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Crosswhite with the teaching of King to include application of tuning delay to specific wireless sensors such as hand held GPS system.

This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized the value of error correction using autoregressive technique in wireless systems.

9. In regard to claim 4, Crosswhite teaches:
  - (Original) The method of claim 3, wherein said tuning the delay comprises forming a prediction history tree.  
(Figure 1B, step (18) in Crosswhite)
10. In regard to claim 7, King teaches:
  - (Original) The method of claim 1, wherein said predicting and correcting are performed by a wireless device.  
(col. 11, lines (3-20) in King)
11. In regard to claim 8, Crosswhite / King teach:
  - (Currently amended) A network comprising:  
(Figure 10 in King)  
a device configured to generate offline a predictive model at least partly based on per-node redundancy in sensor data received (Figure 1B, step (20) and figure 1C, step (23) in Crosswhite) via at least one sensor of the network (figure 10 in king), the device further configured to determine partly based on the predictive model whether to correct observed data received via the at least one sensor.  
(Figure 1C, steps (26) & (28) in Crosswhite)
12. In regard to claim 9, King teaches:
  - (Original) The network of claim 8 in which the at least one sensor is one device.  
(Figure 10 in King)
13. claim 11 is rejected for the same reasons as per claim 8.

14. Claims 12-14 are rejected for the same reasons as per claim 9.
15. claims 15 and 22 are rejected for the same reasons as per claim 8.
16. In regard to claim 16, Crosswhite teaches:
  - (Original) The method of claim 15, wherein said collecting initial sensor data, said pre-processing of initial sensor data, and said developing a predictive model are performed offline.  
(Figure 1A, step (13) in Crosswhite)
17. In regard to claim 17, Crosswhite teaches:
  - (Original) The method of claim 15, further comprising:
  - after said computing the likely value of a next sensor reading, receiving the next sensor reading.  
(Figure 1A, step (15) in Crosswhite)
18. Claim 18 is rejected for the same reasons as per claim 6.
19. Claim 19 is rejected for the same reasons as per claim 16.
20. Claims 20 and 24 are rejected for the same reasons as per claim 17.
21. In regard to claim 21, Crosswhite teaches:
  - (Original) The method of claim 20, wherein said determining a corrected value further comprises forming a prediction history tree including paths representing choices between the value received from the sensor and a predicted value.

(Figure 1C, steps (26) & (28) in Crosswhite)

22. Claims 23 and 25 are rejected for the same reasons as per claim 21.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Rizk whose telephone number is (571) 272-8191. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Scott Baderman can be reached on (571) 272-3644. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronics Business Center (EBC) at 866-217-9197 (toll-free)

/Sam Rizk/

Primary Examiner, Art Unit 2112